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14. Smartphones, and the data demands placed by consumers using these devices, have driven much of this growth. In the next 5 years--2011 to 2015--analysts predict that smartphone penetration will exceed 80% for most U.S. mobile carriers. Approximately **[Begin Confidential Information]** **[End Confidential Information]** of the T-Mobile USA contract customer base now uses a smartphone. In the next five years, the vast majority of contract customers and a substantial portion of the prepaid segment are expected to have a smartphone.

15. Smartphone usage trends are also driving further traffic growth in a number of respects. As the voice-centric (2G) customer base migrates to data-centric services provided over HSPA+, T-Mobile USA has found:

- Increased per user data usage as mobile applications proliferate and develop;
- Increased load from mobile applications, which typically involve frequent interaction with the web (*e.g.*, social networking updates, location updates, advertising, mobile-peer-to-mobile-peer, *etc*);
- Significant growth of mobile video and streaming media traffic; and
- Additional data traffic as voice-centric communications become supplanted by data-centric messaging, including the use of VoIP.

16. Notably, with the uptake of smartphones and the popularity of mobile applications and social networking (*e.g.*, Facebook, Twitter), the rate of growth in data signaling has grown beyond that of the data traffic itself (be it volume or throughput). The underlying reason for this is that mobile applications stimulate very frequent status updates and interactions with the web resulting in substantially more signaling events than for a normal voice-centric mobile device. Annual growth rates of approximately 400% in data signaling have occurred in the last couple of

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years. This growth rate is likely to continue with the accelerated penetration of smartphones in the market.

17. When today's mobile data network was initially specified and designed, the architects did not predict the signaling growth from the smartphone and mobile applications paradigm, and therefore the resulting impact was not considered in the fundamental design of next generation mobile technologies. This further stresses the current mobile network's infrastructure as well as the scarce available spectrum resources.

18. These factors have caused capacity constraints for T-Mobile USA. **[Begin Confidential Information]** **[End Confidential Information]** for example, will have demand exceed AWS-1 capacity in **[Begin Confidential Information]** **[End Confidential Information]**. Several more markets are expected to reach spectrum exhaustion by **[Begin Confidential Information]**

[End Confidential Information]

T-Mobile USA anticipates that anywhere from **[Begin Confidential Information]** **[End Confidential Information]** of markets could reach spectrum exhaustion.

19. In all traffic scenarios, T-Mobile USA expects data traffic demand to continue to grow exponentially over the period 2011 to 2015. Thus, the severity of spectrum exhaustion will increase proportionally as well. As T-Mobile USA only has two spectrum bands and is limited from spectrum re-farming by the GSM to HSPA+ migration rate, **[Begin Confidential Information]**

[End Confidential Information]

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20. When considering spectrum exhaustion, it is important to understand the spectrum options and restrictions within T-Mobile USA's existing portfolio. T-Mobile USA operates its GSM services in the PCS band and its HSPA+ services in the AWS-1 band. The average spectrum position of each individual band is approximately 25 MHz. However, the variation in spectrum across U.S. markets is substantial, *i.e.*, standard deviation is 6 MHz and 11 MHz for PCS and AWS respectively.

21. Given spectrum exhaust timelines, T-Mobile USA must act now to address these deficiencies. While the FCC has indicated it will make additional spectrum available in the future, the timing of the availability of that spectrum is uncertain. In addition, newly allocated spectrum, for example, is not immediately available to relieve capacity after licensing because of implementation delays necessitated by: (1) the standards process, (2) equipment manufacturing, (3) site upgrade issues and (4) potential incumbent clearance of the spectrum. Any newly allocated spectrum that is not already commercialized (such as the mobile satellite spectrum) will require actions at the relevant standards bodies prior to deployment of the spectrum. In general, standards efforts are a 12 to 18 month process. After new bands have been added to existing standards, additional time is needed to manufacture and test new devices designed to utilize the new spectrum. The design, manufacturing and testing process generally requires at least 6 to 12 months to complete. Additionally, depending on the propagation characteristics of newly acquired spectrum, tower sites may need upgrading to deploy the new spectrum – there may not be capacity at a particular site, rezoning may be required, or the deployment may require a renegotiation of lease terms to add space to accommodate the new operations. Finally, should any incumbent operations remain in the newly allocated spectrum, time will be required to remove or relocate these systems.

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22. Even if a new spectrum band can be made available and can be brought into use immediately (*e.g.*, a secondary market transaction for 700 MHz spectrum), handset penetration requires time before capacity exhaust issues in existing bands can be positively impacted by the introduction of the new band. Meaningful capacity relief requires handsets compatible with new bands to make up a significant portion of the user base, and it takes time to migrate customers to newly banded handsets. Technology diffusion, even when a new technology becomes available, still typically takes years before a critical mass can be achieved and benefits of such can be expected.

IV. T-MOBILE USA HAS NO CLEAR PATH TO LTE IN AN ECONOMICALLY AND TECHNICALLY SUSTAINABLE FASHION

23. Due to spectrum exhaustion, difficulty in aggressive re-farming of existing spectrum holdings and a lack of other viable spectrum options, T-Mobile USA has no clear path to an effective, economical deployment of LTE. **[Begin Confidential Information]**

[End Confidential Information]

24. When T-Mobile USA secured its AWS spectrum, it had a choice of which technology to pursue in that band. At the time, however, UMTS/HSPA was the only logical choice for the company. Unlike LTE, which, at the time, was not standardized and not available for T-Mobile USA, HSPA was a mature technology that offered significant spectral efficiency and data rate improvements over GSM. In fact, it is only now that LTE networks are being

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broadly deployed, and while the technology now offers clear benefits over HSPA, those benefits were purely theoretical at the time T-Mobile USA was making its choice for the AWS band.

25. Further, the longer T-Mobile USA must rely upon HSPA+, **[Begin Confidential Information]** **[End Confidential Information]** as the majority of its competitors roll out LTE services. Given its lack of spectrum for LTE **[Begin Confidential Information]**

[End Confidential Information]

26. Finally, due to delays in implementing LTE, as well as an LTE deployment that would be sub-optimal, **[Begin Confidential Information]**

[End Confidential Information]

27. LTE is a major advance for the mobile industry in terms of performance and efficiency. Unlike HSPA, which is approaching the end of its deployment cycle, LTE deployment is just starting to gain momentum. T-Mobile USA requires a clear path to LTE because LTE offers long-term spectrum efficiencies over HSPA+. Given the burgeoning demand for mobile broadband data, there is a need for greater spectrum bandwidths to meet the capacity and data speed requirements. LTE is up to 40% more spectrally efficient than HSPA+ in larger effective bandwidths, even with a dual carrier HSPA+ configuration. LTE standards contemplate and are optimized for larger bandwidths that are required for mobile broadband

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data. LTE, in these larger bandwidths, will have 1.5 to 2 times faster peak data rates than HSPA+ with dual carriers,⁴ will drive down latency, and improve and lower signaling overhead.

28. As noted above, there are two possible methods for obtaining additional spectrum: (1) re-farming existing spectrum or (2) acquisition of new spectrum. Each of these approaches, when contrasted with merging with AT&T, are sub-optimal.

29. Re-farming would require moving the existing T-Mobile USA customer base from GSM in the 1900 MHz PCS band to the HSPA+ network in the 1700/2100 MHz AWS-1 band. This would free up the PCS spectrum for deployment of LTE, if sufficient amounts of spectrum could be cleared by this approach. However, T-Mobile USA's lack of spectrum depth dictates that re-farming will only provide a limited amount of spectrum. To accommodate its existing GSM customer base, at least **[Begin Confidential Information]** **[End Confidential Information]** of PCS spectrum must be reserved for GSM based on current usage (approximately **[Begin Confidential Information]** **[End Confidential Information]** of T-Mobile USA base are GSM only – approximately **[Begin Confidential Information]** **[End Confidential Information]**). In the meantime, the existing customer base is also heavily utilizing the AWS-1 spectrum for broadband data services (approximately **[Begin Confidential Information]** **[End Confidential Information]**). As such, it is unlikely that more than **[Begin Confidential Information]** **[End Confidential Information]** could be cleared by re-farming and be made available for LTE in the near term as these existing services and customers require continued support and spectrum bandwidth.

⁴ These efficiency gains are based on the use of the same amount of allocated spectrum. Higher peak speeds can be realized by dedicating additional spectrum to LTE operation.

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30. **[Begin Confidential Information]**

[End Confidential Information].

31. Alternatively, T-Mobile USA could seek to re-farm its PCS operations to HSPA+ and AWS-1 to LTE. This would put T-Mobile USA on a path to conform with market competition in terms of spectrum and bandwidth. However, it would be highly complex and in **[Begin Confidential Information]** **[End Confidential Information]**. Existing customer devices would need to be migrated to support such a technology path. Realistically, this would require T-Mobile USA to have access to additional PCS and/or AWS-1 spectrum to ensure a seamless transition for its existing customer base. **[Begin Confidential Information]**

[End Confidential

Information]

32. **[Begin Confidential Information]**

[End Confidential Information], T-Mobile USA also has carefully studied the market for the acquisition of new spectrum. While the Federal Communications Commission (“FCC”) has consistently announced its intent to focus on the allocation and licensing of additional mobile broadband spectrum, none of these initiatives appears to remedy the particular spectrum needs of T-Mobile USA in sufficient time to avoid spectrum exhaust.

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33. A first choice for additional spectrum would be to find spectrum below 1 GHz (low band spectrum) to allow for better coverage at more economic costs of deployment. The FCC has two spectrum blocks targeted for potential allocation and licensing: (1) the 700 MHz D Block and (2) UHF television spectrum. Neither of these bands appears to be capable of being licensed in the near-term.

34. The 700 MHz D Block has a Presidential priority and recommendation for reallocation to public safety use. Similarly, the UHF television spectrum (572-698 MHz), which is directly adjacent to the existing 700 MHz commercial wireless spectrum band, would be well suited for commercial LTE deployment. The FCC has targeted this 120 MHz of spectrum for reallocation but has determined that it requires Congressional action to authorize “incentive auctions” to reallocate the spectrum from television broadcasters to commercial wireless use. While the White House and the FCC both strongly support Congressional action, it is unclear if any legislation will pass this year. Further, even if the FCC received this authority from Congress this year, incentive auction rules and the auction itself will take a significant amount of time to develop and implement and the spectrum would not be commercially available for many years. As such, the UHF television spectrum would not be a near-term solution for T-Mobile USA.

35. In addition, the FCC also has spectrum above 1 GHz within its inventory. The AWS-2 and AWS-3 bands are allocated for commercial mobile services but have not had final service and auction rules adopted for their use. The AWS-2 spectrum (the so-called H and J Blocks) is paired and spectrally adjacent to both PCS and AWS-1 spectrum bands. However, the H Block has some significant concerns regarding interference to existing PCS operations that have yet to be resolved, and the J Block uses a non-standard pairing (indeed, the spectrum may

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end up being unpaired to add spectrum to AWS-3). Finally, AWS-3 (2155-2175 MHz) is unpaired spectrum and the FCC is awaiting resolution of potential pairing from spectrum currently allocated to the Federal government. In general, the FCC appears unlikely to complete service and auction rules for these two spectrum bands for many years.

V. COMBINING T-MOBILE USA AND AT&T SPECTRUM AND NETWORKS PROVIDES A CLEAR PATH TO LTE.

36. Reviewing all of the facts, I concur with the benefits of the transaction analysis provided in Section V of the Hogg Declaration. The merger will allow the combined entity access to enough spectrum and network infrastructure to increase capacity significantly, and to achieve demonstrable service improvements for its subscribers that could not occur but for the transaction. It will provide a clear path for LTE for T-Mobile USA in the most effective, expeditious manner possible.

37. First, as noted above, the efficiencies gained from combining AT&T and T-Mobile USA's networks are substantial. Redundant GSM control channel spectrum will no longer be required, freeing up 4.8 to 10 MHz of spectrum for the combined company. Moreover, in areas where AT&T and T-Mobile USA's 1900 MHz PCS spectrum overlap, the existing GSM channels can be more efficiently pooled, improving service to both company's customers.

38. As AT&T and T-Mobile USA both rely upon the same network technology (GSM and HSPA), **[Begin Confidential Information]**

[End Confidential Information].

Moreover, T-Mobile USA's network grid is complementary to AT&T's network, allowing T-Mobile USA's sites to achieve "instant" cell splitting (as discussed in more detail in the Hogg

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Declaration). This in turn allows the combined company an extensive increase in network capacity that would otherwise require years of new site builds to accomplish.

39. Finally, the AT&T and T-Mobile USA (PCS and AWS-1) spectrum bands are complementary. This means that: (1) the efficiency gains discussed above are more pronounced and (2) AT&T can readily use T-Mobile USA's AWS-1 spectrum for LTE in the most efficient fashion in combination with its own AWS-1 spectrum. Moreover, the PCS spectrum holdings of T-Mobile USA can be more efficiently used for both GSM (improving dropped and blocked call rates for customers) and HSPA+ (allowing for the launch of additional carriers and easing capacity concerns in congested markets) following this transaction.

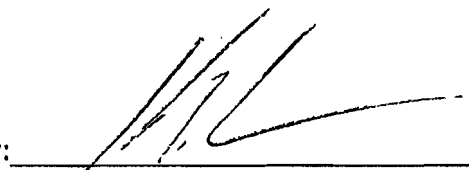
40. In sum, the combination of AT&T with T-Mobile USA will allow a clear, efficient path to LTE that would not otherwise exist for T-Mobile USA. This will provide GSM, HSPA+ and LTE services for customers of the combined entity in a better, more rapid fashion than any other alternatives. It will allow for broader coverage, greater capacity, and a robust and efficient deployment of LTE. The merger will result in a company with sufficient spectrum and capacity to offer LTE services on a scale necessary to compete with other companies while continuing to support legacy services and customers.

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I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

DATED: April 19, 2011

By: _____


Dr. Kim Kylesbech Larsen
Senior Vice President
Deutsche Telekom AG

DECLARATION OF DENNIS W. CARLTON, ALLAN SHAMPINE AND HAL SIDER

I. INTRODUCTION

A. QUALIFICATIONS

Dennis W. Carlton

1. I, Dennis W. Carlton, am the Katherine Dusak Miller Professor of Economics at the Booth School of Business of The University of Chicago. I received my A.B. in Applied Mathematics and Economics from Harvard University and my M.S. in Operations Research and Ph.D. in Economics from the Massachusetts Institute of Technology. I have served on the faculties of the Law School and the Department of Economics at The University of Chicago and the Department of Economics at the Massachusetts Institute of Technology. I specialize in the economics of industrial organization. I am co-author of the book *Modern Industrial Organization*, a leading text in the field of industrial organization, and I also have published over 100 articles in academic journals and books, including several articles on the economics of the telecommunications industry. In addition, I am Co-Editor of the *Journal of Law and Economics*, a leading journal that publishes research applying economic analysis to industrial organization and legal matters, serve on the Editorial Board of *Competition Policy International*, a journal devoted to competition policy, and serve on the Advisory Board of the *Journal of Competition Law and Economics*. I have also served as an Associate Editor of the *International Journal of Industrial Organization and Regional Science and Urban Economics*, and on the Editorial Board of *Intellectual Property Fraud Reporter*.

2. In addition to my academic experience, I served as Deputy Assistant Attorney General for Economic Analysis, Antitrust Division, U.S. Department of Justice from October 2006 through January

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2008. I also served as a Commissioner of the Antitrust Modernization Commission, created by Congress to evaluate U.S. antitrust laws. I have served as a consultant to the Department of Justice on the Horizontal Merger Guidelines (1992) of the Department of Justice and Federal Trade Commission, as a general consultant to the Department of Justice and Federal Trade Commission on antitrust matters, and as an advisor to the Bureau of the Census on the collection and interpretation of economic data.

3. I also am a Senior Managing Director of Compass Lexecon, a consulting firm that specializes in the application of economics to legal and regulatory issues and for which I previously served as President when the firm was called Lexecon. I have provided expert testimony before a variety of courts and regulatory agencies in Canada, the United States, Europe and New Zealand and have submitted testimony to the Federal Communications Commission (FCC) in a variety of prior matters. A copy of my curriculum vita is attached in Exhibit 1 to this report.

Allan L. Shampine

4. I, Allan L. Shampine, am a Vice-President of Compass Lexecon. I received a B.S. in Economics and Systems Analysis (Summa Cum Laude) from Southern Methodist University in 1991, an M.A. in Economics from the University of Chicago in 1993, and a Ph.D. in Economics from the University of Chicago in 1996. I have been with Compass Lexecon (previously Lexecon) since 1996. I specialize in applied microeconomic analysis and have done extensive analysis of network industries, including telecommunications and payment systems. I am the editor of the book Down to the Wire: Studies in the Diffusion and Regulation of Telecommunications Technologies, and I have also published a variety of articles on the economics of telecommunications and network industries. In addition, I have previously provided economic testimony on telecommunications issues on a variety of matters before the FCC and state public utility commissions. A copy of my curriculum vita is attached in Exhibit 1 to this report.

Hal S. Sider

5. I, Hal S. Sider, am a Senior Vice-President of Compass Lexecon. I received a B.A. in Economics from the University of Illinois in 1976 and a Ph.D. in Economics from the University of Wisconsin (Madison) in 1980. I have been with Compass Lexecon (previously Lexecon) since 1985, having previously worked in several government positions. I specialize in applied microeconomic analysis and have performed a wide variety of economic and econometric studies relating to industrial organization, antitrust and merger analysis. I have published a number of articles in professional economics journals on a variety of economic topics and have testified as an economic expert on matters relating to industrial organization, antitrust, labor economics and damages. In addition, I have provided economic testimony on telecommunications issues on a variety of matters before the FCC and state public utility commissions. A copy of my curriculum vita is attached in Exhibit 1 to this report.

B. SUMMARY OF CONCLUSIONS

6. We have been asked by counsel for AT&T Inc. (AT&T) to present our assessment of competitive issues raised by AT&T's proposed acquisition of T-Mobile USA Inc. (T-Mobile USA) from Deutsche Telekom AG. This initial evaluation is based on our familiarity with the telecommunications industry, our review of publicly available documents and data sources, documents and information provided to us by the companies and discussions with executives of all three companies. We will continue to analyze additional data and our documents during the course of this proceeding and use that information to supplement our analysis as appropriate.

7. We conclude that the proposed transaction will promote competition by enabling the merged firm to achieve engineering-based network synergies that increase network capacity beyond the levels that AT&T and T-Mobile USA could achieve if the two companies continued to operate independently. These additions to capacity will permit the merged firm to expand output beyond the

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sum of the output levels that would be achieved if the firms operated independently. A proper antitrust analysis of this transaction must account for the existing capacity limitations and the effect of this transaction on increasing capacity, among other factors. Given the large projected increases in demand for wireless data services, the recognized shortage of spectrum available in many areas to serve increased demand, the ongoing competitiveness of the wireless industry, the cost savings expected to result from the transaction, and the business plans for the merged firm, we conclude that the merged firm will have strong incentives to use this additional capacity to increase output compared to levels that would be expected in the absence of the proposed transaction. These factors are central to the analysis of the proposed transaction and our conclusion that it will not result in harm to consumer welfare.

8. While the FCC has always examined wireless mergers on an area-by-area basis, the overriding conclusion here holds whether competition is analyzed at a national or local level: the proposed transaction will increase consumer welfare by expanding output, improving quality and lowering price relative to levels expected in the absence of the proposed transaction. Nonetheless, the usefulness of an area-by-area analysis in this matter is reinforced by the value of examining not only the local competitive conditions but also local capacity constraints faced by AT&T and T-Mobile USA.

9. The major reasons for the conclusions explained in this Declaration are as follows:

- As the FCC has recognized, demand for wireless services has grown dramatically in recent years, and this growth is projected to continue due in part to the growth in the use of smartphones and connected devices and growth in demand for video-based Internet services. The FCC has concluded that spectrum currently dedicated to wireless uses is far below the levels needed to meet the projected increases in demand.
- AT&T and T-Mobile USA have limited ability to expand capacity and output in response to the projected growth in demand due both to their limited spectrum holdings and

their inability to readily redeploy spectrum needed to continue providing service to existing subscribers. New spectrum is not expected to be available for use by wireless carriers for at least several years and AT&T and T-Mobile USA face limited alternatives for quickly addressing capacity shortfalls in the near term.

- AT&T and T-Mobile USA have complementary spectrum and network assets that will allow the merged firm quickly to expand capacity and output above the levels that each company could achieve independently. Engineering analysis indicates that a combination of the networks can increase capacity by: (i) creating a denser network with additional cells that increases aggregate capacity; (ii) increasing the spectrum available for the provision of service due to the elimination of redundant control channels for the firms' GSM networks; (iii) generating "channel pooling efficiencies" which enable a firm's existing spectrum to serve more subscribers due to the higher probability of obtaining an open channel when channels are grouped in larger pools; (iv) facilitating migration of subscribers from less efficient to more efficient technologies; and (v) expanding coverage of AT&T's "next generation" Long Term Evolution (LTE) network. AT&T will have strong incentives to expand output given the strong projected growth in demand for data services and competitive pressures to attract data users by offering innovative and high-quality services. For example, AT&T has been an industry leader in introducing wireless devices such as the iPhone and iPad that have spurred rapid growth in wireless data use.
- The merged firm will continue to face significant competition after the proposed transaction due in part to the fact that not all firms face the same potential capacity limitations in the same areas at the same time. AT&T will face competition not only

from Verizon Wireless and Sprint, but also from low-cost, non-contract carriers MetroPCS and Leap/Cricket which offer nationwide, or near-nationwide, pricing and are attracting an increasing number of subscribers. In addition, strong regional carriers such as U.S. Cellular often serve a substantial share of subscribers in the areas where they provide service and offer nationwide pricing. At least three of these competitors, in addition to AT&T and T-Mobile USA, are present in a large majority of areas in which AT&T and T-Mobile USA compete.

- The merged firm will also face competition from new entrants including LightSquared and Clearwire. Lightsquared is now deploying an LTE network that it plans to use to provide wholesale service to areas covering 260 million people in the U.S. by 2015, and Clearwire currently provides WiMax service on both a retail and wholesale basis to areas covering 112 million people. In the future, AT&T may also face competition from firms that hold spectrum but have not yet launched service, such as SpectrumCo (or the cable companies that own SpectrumCo), DISH, as well as firms that can enter when the FCC auctions new spectrum. Each of these potential entrants, as well as newer carriers such as MetroPCS and Leap, has the ability to “leapfrog” existing carriers by deploying “next generation” technologies, as they do not need to serve an embedded base of subscribers using “last generation” technologies.
- Absent this transaction, T-Mobile USA’s competitive significance is likely to decline in the future due, in part, to the lack of sufficient spectrum to allow it a clear path to deploying LTE, a problem that analysts -- and T-Mobile USA itself -- recognize will put T-Mobile USA at a competitive disadvantage relative to other carriers. The moderate

decline in T-Mobile USA's subscriber share in recent years also indicates that its competitive significance is likely to continue to decline in the future.

- Concerns about unilateral anticompetitive effects do not apply given the expected expansion in output from the proposed transaction. It is well recognized that concerns about unilateral effects are eliminated or mitigated when: (i) firms face high and rising marginal costs of expanding output; (ii) firms face strong demand (so they operate on the steep or vertical portion of the marginal cost curve); and (iii) mergers result in synergies that increase capacity or, equivalently, reduce the marginal cost of expanding output. These are precisely the circumstances that characterize the proposed transaction: (i) both AT&T and T-Mobile USA face high and rising marginal costs of expanding output; (ii) demand for data services is projected to grow dramatically; and (iii) the proposed transaction promises to result in engineering-based synergies that will increase network capacity. Further, the post-merger business plans described in the accompanying declarations of AT&T's David Christopher and John Donovan confirm that AT&T plans to use the increased capacity resulting from the proposed transaction to expand output.
- If one misapplies standard models of unilateral effects that are based on the assumptions that pre-merger output can be readily expanded and that a merger will not result in an expansion of capacity, then one can obtain misleading results about the likelihood that the proposed merger will harm competition.
- Concerns about unilateral effects are also reduced by the substantial differences in the characteristics of T-Mobile USA and AT&T subscribers: For example, T-Mobile USA's subscribers are less heavy data users than AT&T's; enterprise customers account for a

substantially smaller share of T-Mobile USA subscribers compared to AT&T; the T-Mobile USA subscriber base includes a substantially larger share of “non-contract” customers compared to AT&T, which predominantly serves “contract” subscribers; and T-Mobile USA’s subscribers are characterized by much higher customer separation rates, or “churn” compared to AT&T’s.

- For similar reasons, typical concerns about coordinated anticompetitive effects do not apply due in part to the present and future capacity constraints faced by AT&T and T-Mobile USA and the projected growth in demand for data services. Given these circumstances, the merged firm has strong incentives to expand output in response to the reduction in marginal cost (or equivalently, increase in capacity) resulting from the proposed merger and not to restrict output due to coordination with other firms that face different marginal costs. Apart from capacity considerations, concerns about coordinated effects are addressed by a variety of industry characteristics including: the diversity of wireless firms and their business strategies; the multidimensional nature of service offerings; the complex nature of industry pricing; and differences across firms with respect to technology, handset offerings, spectrum holdings, capacity utilization, geographic network coverage and differences in the identity of carriers operating in different areas. The importance of competition to gain long-term advantages by offering service innovations also reduces concerns about coordinated effects.
- Finally, the proposed transaction does not eliminate a “maverick” from the wireless industry. While mavericks are often defined as firms that grow by disrupting competition, T-Mobile USA’s share of wireless subscribers has been declining modestly in recent years. Past FCC comments also indicate that none of the major pricing or

service innovations in recent years was initiated by T-Mobile USA. To the extent that T-Mobile USA's prices are lower than those of AT&T and Verizon Wireless, the fact that T-Mobile USA's share of retail subscribers has not been growing indicates not that it is a price leader, but rather a recognition that customers perceive certain dimensions of T-Mobile USA service are lacking relative to those offered by competitors.

II. RATIONALE FOR THE PROPOSED TRANSACTION

A. AT&T AND T-MOBILE USA LACK ADEQUATE CAPACITY TO EFFICIENTLY SERVE THE LARGE PROJECTED GROWTH IN THE DEMAND FOR WIRELESS DATA SERVICES.

10. The proposed transaction promises to create additional capacity needed to serve the large projected increases in the demand for wireless service and to improve the quality of wireless service provided to AT&T and T-Mobile USA subscribers. Due to the current demand and large projected increase in demand for wireless data services, the networks operated by AT&T and T-Mobile USA are now at or near capacity in many areas and both firms face high and increasing costs of serving additional customers.

11. The ability of AT&T and T-Mobile USA to support new subscribers and traffic is now constrained by available spectrum, whether one examines spectrum now held by each firm, spectrum that can be acquired from others, or spectrum that the FCC will allocate and will become available to wireless services at some point in the future. In addition to limitations of available spectrum, the ability of AT&T and T-Mobile USA to support new subscribers and additional usage is limited by the lengthy time and limited efficacy associated with expanding network capacity by deploying new cell sites,

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offloading traffic using WiFi, distributed antenna systems (DAS) or upgrading networks to use more spectrally efficient technologies.¹

12. As explained in the accompanying declarations of William Hogg, AT&T's Senior Vice President of Network Planning and Engineering and Kim Larsen, Deutsche Telekom's Senior Vice President for Technology Service and International Network Economics, the large projected growth in the demand for data services means that both firms are or will soon be capacity constrained in certain areas, or will otherwise face a significant deterioration in service quality. As explained in these declarations and summarized briefly below, combining AT&T's and T-Mobile USA's network assets will enable the merged firm to take advantage of a variety of engineering-based network synergies which will increase capacity beyond the sum of the levels the two companies could achieve if operated independently and enable the merged firm to expand output beyond the sum of the levels that the two networks could achieve independently. The increase in capacity of the combined firm that is expected to result from the proposed transaction will benefit consumers by expanding output and improving service quality. This essential point bears repeating. Even if one were to oversimplify the nature of wireless competition and mischaracterize this industry as consisting of only four nationwide players, the transaction would be pro-competitive and would benefit consumers by creating new capacity, thereby leading to greater output and lower prices compared to the levels that would exist in the absence of the proposed transaction.

13. The competitive impact of the proposed transaction also needs to be evaluated in the context of the highly dynamic and rapidly evolving wireless telecommunications industry. Over the last

1. The term capacity constraint, as used in this declaration, should not be thought of as a strict engineering limit on the number of subscribers that can be served by a network. Instead, from an economic perspective, a firm is said to face a capacity constraint when it faces a steeply rising cost of serving additional subscribers (holding quality constant). In the context of the wireless industry, increasing subscribers on the existing network and spectrum can lead to reduction in network quality or service.

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15 years there has been large and continuous growth in the number of wireless voice subscribers, as well as dramatic increases in the utilization of wireless services per subscriber. This expansion in industry output has been accompanied by a dramatic reduction in industry pricing. Additionally, wireless service providers have expanded their product offerings, especially the availability of high quality mobile data services.

14. To put this into perspective, the number of wireless subscribers has grown from 38 million in June 1996 to 293 million in June 2010, an increase of over 650 percent.² In addition, the usage of voice services by subscribers has increased dramatically over this period, with the average monthly voice minutes of use increasing by more than 475 percent, from 119 to 686 minutes per subscriber.³ Together, the combination of increasing numbers of subscribers and usage per subscriber has led to an explosion in wireless voice service. Between June 1996 and December 2010, total wireless voice minutes in the United States increased from 24 billion to 1.1 trillion, an increase of roughly 4,600 percent.⁴ In the past two years, total voice minutes on wireless networks have leveled off, but this has been offset by rapidly increasing use of wireless data applications including texting, email, and Internet access.

15. The dramatic growth in the demand for wireless voice services has been driven in part by large price declines, with carriers' average revenue per voice minute falling from \$0.41 per minute in June 1996 to less than \$0.05 per minute in June 2010, a decline of 88 percent.⁵ This growth in output

2. CTIA, "CTIA's Wireless Industry Indices Mid-Year 2010 Results," November 2010, Chart 3, p. 24.

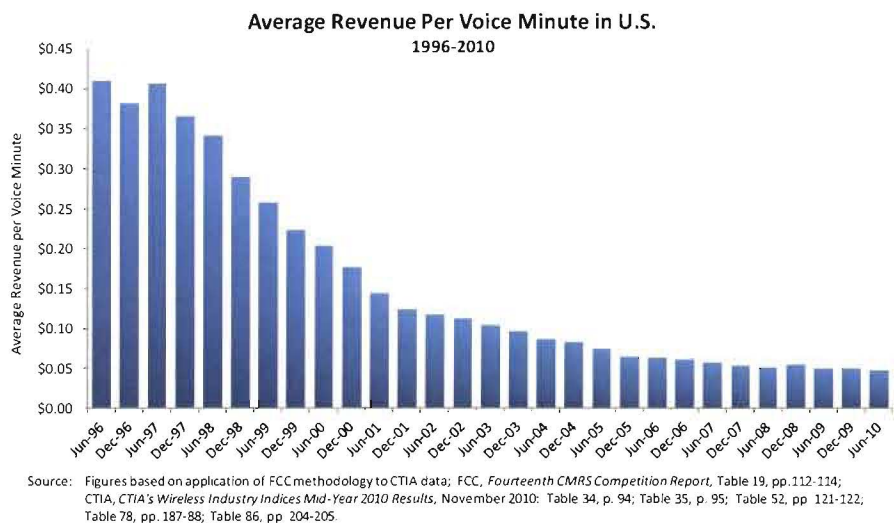
3. CTIA, "CTIA's Wireless Industry Indices Mid-Year 2010 Results", November 2010, Table 86, pp. 204-205.

4. CTIA, "CTIA's Wireless Industry Indices Mid-Year 2010 Results", November 2010, Table 85, pp. 202-203; http://files.ctia.org/pdf/CTIA_Survey_Year_End_2010_Graphics.pdf/

5. Available data do not permit calculation of average revenue per voice minute for the second half of 2010. In inflation adjusted terms, average revenue per voice minute fell by 92 percent between June 1996 and June 2010.

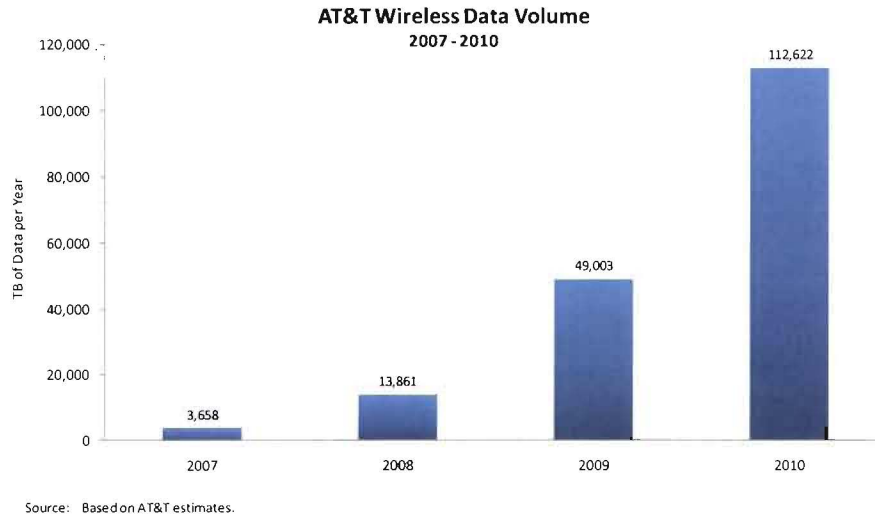
and reduction in prices was achieved in part through past mergers which led to the creation of more efficient carriers.

Figure 1



16. In recent years, the growth of wireless services has been driven by increased demand for data services including text, email, and Internet access. For example, AT&T's subscribers wireless data use in 2010 was 31 times that in 2007.

Figure 2



17. Growth in output of wireless data services has accompanied a dramatic decline in prices for data services. AT&T estimates indicate that average revenue per megabyte (MB) for its subscribers fell by roughly [Begin Confidential Information] [End Confidential Information] percent between 2007 and 2010.